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Instruction manual motorized test bench

SAUTER TVO-N/THM-N

Version 2.0
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GB



PROFESSIONAL MEASURING

TVO-THM-BA-e-1920



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Congratulations on the purchase of the SAUTER TVO or the THM test bench. We hope you enjoy your quality measuring system with its wide range of functions and high reproducibility. If operated correctly, this high-quality product will give you many years of use.

For questions, wishes or suggestions we are always at your disposal.

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1 Introduction

All Sauter force gauges up to 500 N can be fitted to the TVO-N and THM-N series. SAUTER offers optional software and accessories to give you the greatest possible flexibility in configuring your measuring system. Please contact SAUTER for further information.

2 Scope of delivery

- SAUTER TVO-N/THM-N
- Power cord
- Operating instructions
- Accessories (depending on model)

3 Weight and dimensions

| Test bench | TVO 500N300 | THM 500N500N |
|----------------------|-------------------|-----------------|
| Dimension (LxWxH) | 430x235x570 mm | 555x170x345 mm |
| Weight | 25kg | 35kg |
| Packaging | stable wooden box | |

4 Check before use

After receipt of the test bench, it should be checked in advance whether no transport damage has occurred, whether the outer packaging, the metal housing, other parts or even the test bench itself have been damaged. If any damage is evident, please notify SAUTER GmbH immediately.

5 Possible applications

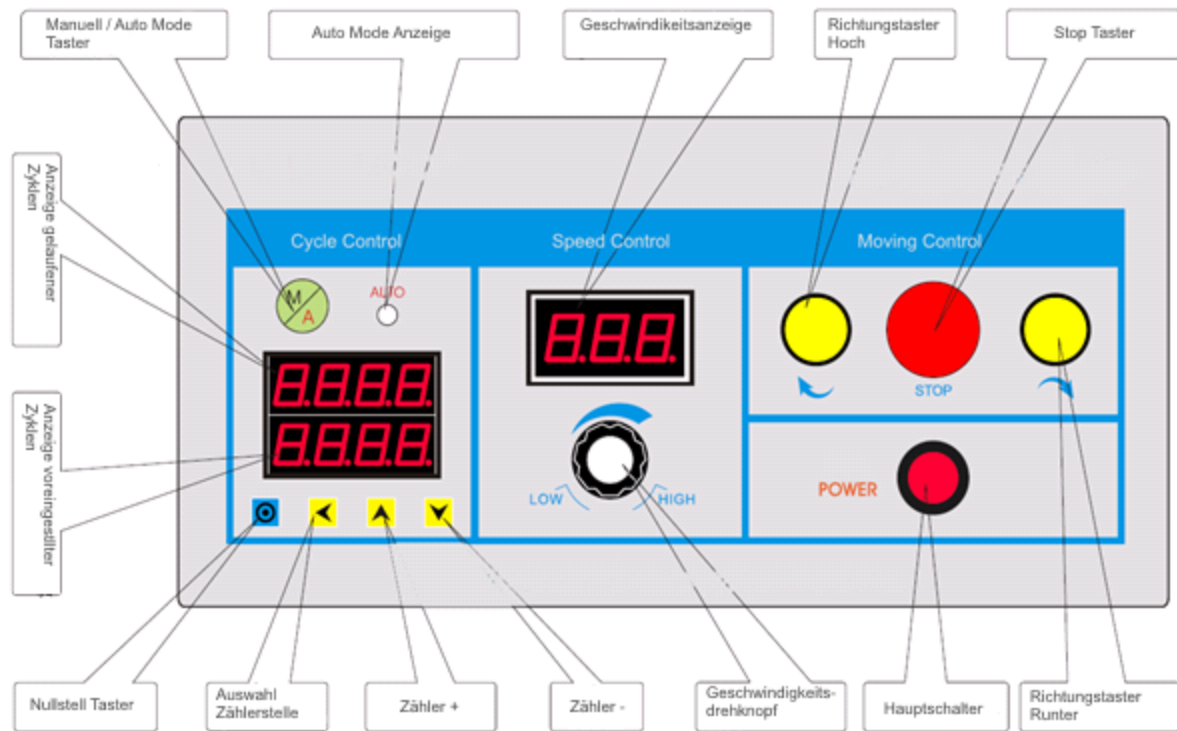
The TVO-N or THM-N test stand is designed to accommodate most SAUTER force measuring devices without any great difficulty. It has a wide range of applications and can be operated manually. It can also perform individual functions independently. These are, for example, infinitely variable speed adjustment, automatic horizontal movement (THM) or vertical movement (TVO) with preset repetition (up to 1000 cycles). It can be used for material testing in the metal, plastics and textile industries. It can also be operated with SAUTER software (AFH), from where it can be conveniently controlled by PC. This software is also able to document force, time and distance.

- Select the correct test stand with regard to the test direction you require.
- Under no circumstances should you attempt to open, repair or modify the unit. Contact SAUTER GmbH.
- The test bench is not suitable for operation in a humid environment. Avoid penetration of moisture into the housing under all circumstances.
- Do not use sharp objects to operate the buttons.
- Use the limiting rings on the test bench to check the travel. Precise adjustment of the travel using the limiting rings prevents damage to the test stand and the force gauge used.
- From time to time, moisten the rods with a lubricating oil.

Turn off the unit and unplug the power cord if you are not going to use it for a long time.

| Test bench | TVO500N300 | THM500N500N |
|------------------------------------|-------------------|--------------------|
| Maximum force | 500 N | 500 N |
| Speed range | 15-300 mm/min | 50-500 mm/min |
| Speed accuracy | 2% of max. | |
| Maximum travel distance | 270mm | 215mm |
| Maximum number of cycles | 1000 (only THM-N) | |
| Nominal voltage | 220V 50/60Hz | |
| Backup | 3A | |
| Operating temperature | 20±10°C | |
| Storage and transport temp. | -27°C up to 70°C | |
| Relative air humidity | 15 % up to 80 | |

6 Control panel THM-N



| Function | Declaration |
|----------------------------------|---|
| Main switch: | Switching the test bench on / off |
| Direction switch OPEN: | Lower slide moves upwards (as long as is pressed) |
| Direction button AB: | Lower slide moves downwards (as long as is pressed) |
| Stop button: | In Auto Mode the movement is stopped |
| Speed control knob: | Regulation of the lifting speed |
| Manual / Auto Mode: | Choice between manual or automatic movement |
| Display of preset cycles: | With the help of the counters ▲, counters ▼ and selection of counter position ◀ a number can be preset, how many cycles are to be run |
| Display of driven cycles: | The number of cycles completed is displayed here |
| Reset button: | Zeroing of the driven cycles Ⓛ |

The movement of the test bench is defined by the lower and upper limiting ring. These limiting rings must be adjusted for each test.

7 Application





7.1 Check before starting the measurement / test

- Wiring, switching on Display flashes 5 times
- Test the movement without the test piece, manually actuating the limit switches to test their function.
- Test of the automatic movement. Press the Manual/Auto Mode button, Auto Mode indicator lights up. Set cycles (avoid setting "1"), start test run with Up or Down button. At the end of the cycles, the test bench stops and emits an alarm tone 3 times, test finished.

7.2 Speed setting

The speed can be adjusted continuously up to the maximum. The set speed can be read off the display.

7.3 Presetable cycles

A number of cycles can be preset on the test bench. The preset value is displayed in the lower area. It can be set  with the keys Counter , Counter  and Select counter position. The "run" number is displayed in the upper area. The counter can be  reset with the Zero key.

7.4 Limit switch

In manual mode, movement stops when the limit switches are reached. In Automatic mode, movement stops at the Perimeter Switch for about 5 seconds and then continues in the opposite direction. In order to ensure that the test/examinations run smoothly, you should ensure that you align the boundary rings very precisely so that the test object or test equipment is not destroyed if the path is too long/short.

8 Warnings

Incorrectly performed force measurements can lead to serious injury to persons and damage to objects. Force measurements should therefore only be carried out by trained and experienced personnel.

In particular, it should be avoided that forces are applied to the measuring instrument by the test bench which exceed the maximum load (Max) of the test bench or measuring instrument or which do not act axially on the instrument via the test bench

Note:

To view the CE declaration, please click on the following link:

<https://www.kern-sohn.com/shop/de/DOWNLOADS/>